

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings of claims:

Listing of Claims:

1. (Previously Presented) A system, comprising:

an application device;

a service device;

a communication network configured to connect said application device to said service device;

an internet protocol security service unit configured to provide one or more internet protocol security services comprising at least one of authentication services and encryption services, said internet protocol security service unit deployed in said service device;

at least one management client configured to issue, in response to communication received at said application device from a user equipment via a session key management protocol, security association management requests to create and manage, with said session key management protocol, security associations for use by said provided internet protocol security services, said at least one management client deployed in said application device; and

a management server configured to receive said security association management requests issued from said at least one management client and to respond, in connection with said internet protocol security service unit, to said security association management requests received at said management server, said management server deployed in said service device.

2. (Previously Presented) The system according to claim 1, wherein said application device further comprises an interface configured to provide communication between said at least one management client associated with said application device and said management server.

3. (Currently Amended) The system according to claim 1, wherein said security association management requests to create and manage comprise at least one of adding requests configured to add security associations, deleting requests configured to delete security associations, and querying requests configured to query about security associations.

4. (Previously Presented) The system according to claim 2, wherein said interface is further configured to use sockets for communication with said management server.

5. (Previously Presented) The system according to claim 2, wherein said interface comprises data structures used in communication between said management client and said management server.

6. (Previously Presented) The system according to claim 2, wherein said interface is implemented as a software library linked dynamically or statistically into a corresponding management client.

7. (Previously Presented) The system according to claim 1, wherein said internet protocol security service unit and said management server are configured to use a local

communication channel for communications between said internet protocol security service unit and said management server.

8. (Previously Presented) The system according to claim 1, wherein at least one application device comprises two or more management clients, and wherein at least two of said management clients are configured to use different session key management protocols.

9. (Cancelled)

10. (Currently Amended) A method, comprising:

providing one or more internet protocol security services comprising at least one of authentication services and encryption services from an internet protocol security service unit, said internet protocol security service unit being deployed in a service device;

issuing, in response to communication received at an application device from a user equipment via a session key management protocol, security association management requests to create and manage, with said session key management protocol, security associations for use by said provided internet protocol security services, from at least one management client, said at least one management client being deployed in said application device;

receiving, in a management server, said security association management requests issued from said at least one management client; and

responding, in connection with said internet protocol security service unit, to said security association management requests received at said management server, said management server being deployed in said service device,

wherein said application device is connected to said service device by a communication network.

11. (Previously Presented) The method according to claim 10, wherein said issuing comprises communicating at least one of said security association management requests issued from said application device and corresponding responses via an interface associated with said application device.

12. (Currently Amended) The method according to claim 10, wherein said ~~issuing~~ ~~comprises issuing said~~ security association management requests ~~comprising~~ comprise at least one of adding requests for adding security associations, deleting requests for deleting security, and querying requests for querying about security associations.

13. (Cancelled)

14. (Previously Presented) An apparatus, comprising:
at least one management client configured to issue, in response to communication received at said apparatus from a user equipment via a session key management protocol, security association management requests to create and manage, with said session key management protocol, security associations for use by one or more internet protocol security services comprising at least one of authentication services and encryption services provided by an internet protocol security service unit external to said apparatus; and

an interface configured to communicate said issued security association management requests to a management server external to said apparatus, said management server configured to respond to said security association management requests in connection with said internet protocol security service unit.

15. (Currently Amended) The apparatus according to claim 14, wherein said security association management requests to create and manage comprise at least one of adding requests configured to add security associations, deleting requests configured to delete security associations, and querying requests configured to query about security associations.

16. (Currently Amended) An apparatus, comprising:
an internet protocol security service unit configured to provide one or more internet protocol security services comprising at least one of authentication services and encryption services; and

a management server configured to receive security association management requests issued from at least one management client external to said apparatus and to respond, in connection with said internet protocol security service unit, to said received security association management requests to create and manage security associations.

17. (Previously Presented) The apparatus according to claim 16, wherein said internet protocol security service unit is configured to use a local communication channel for communications between said internet protocol security service unit and said management server.

18. (Previously Presented) A method, comprising:

issuing, in response to communication received at an application device from a user equipment via a session key management protocol, from at least one management client deployed in said application device, security association management requests to create and manage, with said session key management protocol, security associations for use by one or more internet protocol security services comprising at least one of authentication services and encryption services provided by an internet protocol security service unit external to said application device; and

communicating at least one of said issued security association management requests to a management server external to said application device, wherein said management server is configured to respond to said security association management requests in connection with said internet protocol security service unit.

19. (Previously Presented) The method according to claim 18, wherein said communicating comprises communicating at least one of said security association management requests issued from said application device and corresponding responses via an interface associated with said application device.

20. (Previously Presented) The method according to claim 18, wherein said issuing comprises issuing said security association management requests comprising at least one of adding requests for adding security associations, deleting requests for deleting security, and querying requests for querying about security associations.

21. (Currently Amended) A method, comprising:

providing one or more internet protocol security services comprising at least one of authentication services and encryption services from an internet protocol security service unit, wherein said internet protocol security service unit is deployed in a service device; and

receiving security association management requests to create and manage security associations, the security association management requests issued from at least one management client external to said service device and responding, in connection with said providing the one or more internet protocol security services, to said received security association management requests.

22. (Previously Presented) A computer readable storage medium encoded with instructions that, when executed by a computer, perform a process, the process comprising:

providing one or more internet protocol security services comprising at least one of authentication services and encryption services from an internet protocol security service unit, said internet protocol security service unit being deployed in a service device;

issuing, in response to communication received at an application device from a user equipment via a session key management protocol, security association management requests to create and manage, with said session key management protocol, security associations for use by said provided internet protocol security services, from at least one management client, said at least one management client being deployed in said application device;

receiving in a management server said security association management requests issued from said at least one management client; and

responding, in connection with said internet protocol security service unit, to said security association management requests received at said management server, said management server being deployed in said service device,

wherein said application device is connected to said service device by a communication network.

23. (Previously Presented) A computer readable storage medium encoded with instructions that, when executed by a computer, perform a process, the process comprising:

issuing, in response to communication received at an application device from a user equipment via a session key management protocol, from at least one management client deployed in said application device, security association management requests to create and manage, with said session key management protocol, security associations for use by one or more internet protocol security services comprising at least one of authentication services and encryption services provided by an internet protocol security service unit external to said application device; and

communicating at least one of said issued security association management requests to a management server external to said application device, said management server configured to respond to said security association management requests in connection with said internet protocol security service unit.

24. (Currently Amended) A computer readable storage medium encoded with instructions that, when executed by a computer, perform a process, the process comprising:

providing one or more internet protocol security services comprising at least one of authentication services and encryption services from an internet protocol security service unit, said internet protocol security service unit being deployed in a service device; and

receiving security association management requests to create and manage security associations, the security association management requests, issued from at least one management client external to said service device and responding, in connection with said providing the one or more internet protocol security services, to said received security association management requests.

25. (Previously Presented) An apparatus, comprising:

managing means for issuing, in response to communication received at said apparatus from a user equipment via a session key management protocol, security association management requests to create and manage, with said session key management protocol, security associations for use by one or more internet protocol security services comprising at least one of authentication services and encryption services provided by an internet protocol security service means external to said apparatus; and

communicating means for communicating said issued security association management requests to a management server external to said apparatus, said management server configured to respond to said security association management requests in connection with said internet protocol security service means.

26. (Currently Amended) An apparatus, comprising:

internet protocol security service means for providing one or more internet protocol security services comprising at least one of authentication services and encryption services; and receiving means for receiving security association management requests to create and manage security associations, the security association management requests issued from at least one management client external to said apparatus and for responding, in connection with said internet protocol security service means, to said received security association management requests.